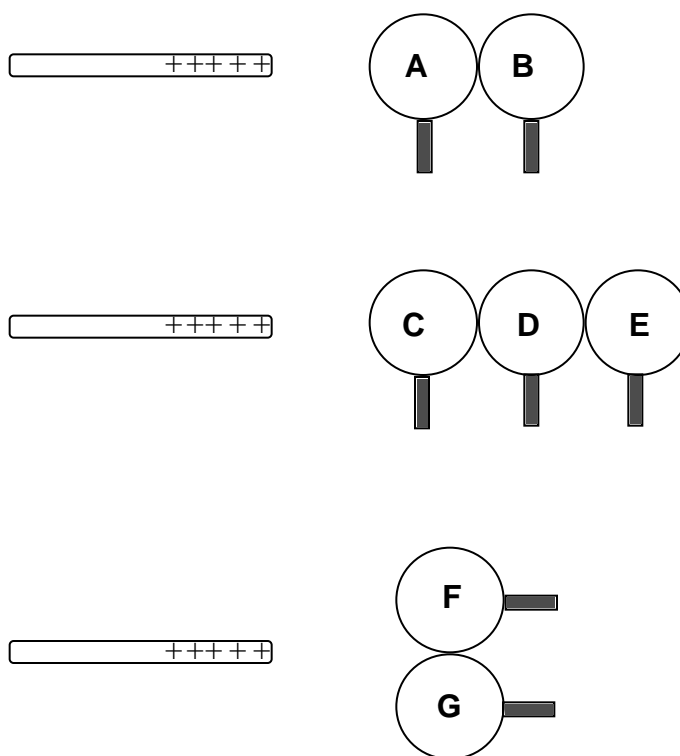


Induced Charges—Positive and Negative ¹³⁵

The following diagrams show three separate situations involving charges on metal spheres that are initially in contact. The positively charged rod is brought up to the same distance from each set of metal spheres. The spheres are then separated simultaneously from each other using the insulating handles. Finally the charged rod is removed. (Assume the separation is carried out in vacuum.)

Rank the charge on each sphere from most positive to most negative after the rod is removed.



Positive 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ Negative

Or, all the spheres have the same charge. _____

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)

Basically Guessed

Sure

Very Sure

1 2 3 4 5 6 7 8 9 10

¹³⁵ B. Emerson